General

Guideline Title

Management of patients with early esophageal cancer, dysplastic and non-dysplastic Barrett's esophagus.

Bibliographic Source(s)

Alberta Provincial Gastrointestinal Tumour Team. Management of patients with early esophageal cancer, dysplastic and non-dysplastic Barrett's esophagus. Edmonton (Alberta): CancerControl Alberta; 2014 Mar. 19 p. (Clinical practice guideline; no. GI-011). [52 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Diagnosis

Diagnostic endoscopy should be performed using a white-light, high-resolution endoscope. On the initial endoscopy, columnar esophageal mucosa should be noted as "endoscopically suspected esophageal metaplasia (ESEM)." The patient should be treated with a daily proton pump inhibitor (PPI), and a repeat endoscopy should be performed within 6 to 12 months. At this point, the Prague C & M Criteria should be used to assess the presence and extent of suspected Barrett's esophagus. Targeted biopsies of every suspicious lesion, followed by 4-quadrant biopsies every 1 cm throughout the entire Barrett's esophagus segment are recommended. Biopsies should be submitted in separate jars corresponding to the level from which it was taken. However, if visible mucosal irregularities such as flat or raised nodules that are suspicious for dysplasia or early carcinoma are visualized within the zone of Barrett's during endoscopic surveillance, the preferred method of sampling is an endoscopic mucosal resection (EMR). This allows for a larger sample, and therefore more precise assessment of depth of tumour invasion into the mucosa and submucosa.

The grade of dysplasia will determine the most appropriate surveillance interval and management strategy for patients with Barrett's esophagus. Dysplasia is defined microscopically based on cytological and structural changes to the intestinal epithelium severe enough to suggest neoplastic transformation; the distinction between low- and high-grade is based on the severity of these changes. The guideline authors recommend that all Barrett's esophagus biopsies revealing any grade of dysplasia (indefinite, low- or high-grade) be reviewed and confirmed by 2 pathologists, one of whom should be an expert in interpreting esophageal histopathology:

- For patients with no dysplasia and a Barrett's esophagus segment ≤3 cm, endoscopic surveillance is recommended every 5 years; for patients with no dysplasia and a Barrett's esophagus segment >3 cm, endoscopic surveillance is recommended every 3 years, with 4-quadrant biopsies every 2 cm.
- Patients with biopsies that are indefinite for dysplasia should have a repeat endoscopy every 3 to 6 months, with 4-quadrant biopsies every 1 cm.

- For patients with low-grade dysplasia, endoscopic surveillance is recommended every 6 to 12 months, with the goal of detecting potential progression to high-grade dysplasia or esophageal adenocarcinoma early.
- Patients with high-grade dysplasia, early esophageal cancer, or invasive cancer should be referred to a tertiary centre for further evaluation.

Please refer to the CancerControl Alberta guideline Esophageal Cancer (GI-009) for detailed staging information.

Treatment

Given the complexities in diagnosis and treatment of patients with dysplastic Barrett's esophagus or early esophageal cancer, as well as the risks associated with both over- and under-treatment of Barrett's esophagus, the guideline authors recommend that these patients are best managed in a tertiary centre, with input from experienced gastroenterologists, surgeons, pathologists, and oncologists. The goal of treatment for Barrett's esophagus is to control the symptoms of gastroesophageal reflux disease (GERD), heal the mucosal inflammation, manage any dysplasia, and prevent progression or improve survival for patients who progress to adenocarcinoma. Upon diagnosis of Barrett's esophagus, the guideline authors recommend that all patients should be started on daily therapy with a PPI.

In general, routine endoscopic or surgical treatment for patients with Barrett's esophagus in which there is no dysplasia, is indefinite for dysplasia or has low-grade dysplasia is not recommended. However, if these patients have one or more additional risk factors, including: i) age younger than 30 years at the time of Barrett's diagnosis, ii) a family history of Barrett's esophagus or esophageal cancer, and iii) a segment of circumferential Barrett's esophagus greater than 6 cm, endoscopic ablative therapy can be considered. If these additional risk factors are not present, patients should continue to be monitored with endoscopic surveillance at the appropriate intervals and the appropriate number of biopsies. Patients with high-grade dysplasia or early esophageal cancer should be referred to a tertiary centre, and an endoscopic ultrasound and/or enhanced computed tomography (CT) scan of the chest should be considered in order to rule out lymphadenopathy as these patients are at risk of lymph node metastasis, although this risk is not well-defined. If visible lesions, nodules, or mucosal irregularities are seen during endoscopic surveillance, the patient should first undergo EMR instead of a standard endoscopic biopsy. This provides a larger tissue sample with better orientation, therefore allowing for more accurate diagnosis, staging, and improved treatment planning. The guideline authors recommend these samples are pinned flat before fixation and histologic sectioning should be in a "bread loaf" manner to allow for assessment of depth of invasion (see Appendix A in the original guideline document). These samples should be handled by a lab and pathologists with expertise in esophageal dysplasia. Samples should be mapped and tagged corresponding as precisely as possible to the location in the esophagus from which it was resected. For patients without evidence of invasive adenocarcinoma, it is recommended that EMR be followed by non-surgical ablative therapy to the remaining Barrett's esophagus, in order to achieve complete eradication of intestinal metaplasia. For patients with any evidence of submucosal invasion (T1b or deeper) or lymph node metastasis, esophagectomy is the most appropriate therapy, and the patient should be referred for surgical evaluation. Esophagectomy is associated with significant rates of post-operative and long-term complications, with lower morbidity and mortality rates being associated with higher-volume centres and more experienced surgeons. It is therefore recommended that patients be referred to a thoracic/upper gastrointestinal (GI) surgeon specializing in the treatment of foregut cancers at a high-volume centre. Any patient with poor prognostic factors should be discussed at a multidisciplinary Tumour Board, which should include a thoracic/upper GI surgeon.

Following diagnostic EMR, non-surgical ablation options for the treatment of Barrett's esophagus with high-grade dysplasia, or select patients with no or low-grade dysplasia and additional risk factors are recommended for patients without remnant visible lesions or mucosal irregularities and include:

1. Endoscopic mucosal resection. EMR involves the use of an endoscope to diagnostically and therapeutically resect mucosal lesions. During a therapeutic EMR, lesions may be lifted using a saline solution or suction and then directly excised using a cap and/or snare accessory. Lateral and deep margins can be assessed with proper specimen handling. In the context of Barrett's esophagus and early esophageal carcinoma, an EMR is performed to both accurately diagnose the depth of a visible esophageal lesion and as a potential curative procedure for Tis (high-grade dysplasia) and T1a (tumour invades lamina propria or muscularis mucosa) disease.
   The evidence suggests that EMR can be performed with curative intent in intramucosal carcinoma (T1a) under acceptable clinicopathological criteria. In a prospective case series of 349 patients, it was found that complete response was achieved in 96.6% of endoscopically-treated patients; the 5-year survival rate was 84%. A similar study of 100 patients at a single centre found that complete local remission was achieved in 99% of patients treated with EMR after 1.9 months; the 5-year survival rate was 98%. In a recent systematic review of the safety and effectiveness of endoscopic approaches, study authors found that complete response following EMR ranged from 67% to 100% and recurrence ranged from 0% to 28%. Although the "gold standard" approach to the management of early esophageal cancer has been esophagectomy, studies comparing EMR to surgery found no difference in survival and greater complications with surgery. Furthermore, intramucosal tumours are associated with minimal nodal metastases risk, and therefore, may be treatable endoscopically. Specifically, EMR as curative therapy is indicated for T1a patients if all of the following criteria are met:

   - The patient has been assessed by a multidisciplinary Tumour Board.
   - The diagnostic specimen has been properly handled by an expert pathologist.

- The procedure will be performed by an endoscopist who is expert in EMR at a tertiary centre.
- The patient does not present with any high risk features, which include:
  - Tumour size >2 cm.
  - Poor differentiation.
  - Lymphovascular invasion.

Patients who do not meet the above criteria may need surgical assessment. Any patient referred to surgery should undergo a full nutritional assessment.

2. Radiofrequency ablation (RFA). RFA involves the application of direct thermal energy to the lining of the esophagus using an endoscopic platform. The equipment includes balloon-based and pad-based probes fixed to the tip of an endoscope to provide circumferential and focal radiofrequency ablation. There is strong evidence to support the use of RFA for the eradication of flat, residual Barrett's esophagus (following EMR) in patients with high-grade dysplasia, as well as for patients with no or low-grade dysplasia who have additional risk factors. In a landmark randomized placebo-controlled trial examining 127 patients with Barrett's esophagus, RFA therapy was associated with significantly higher rates of complete disease eradication compared to the placebo group for patients with both high-grade dysplasia (81.0% versus 19.0%, $p<0.001$) and low-grade dysplasia (90.5% versus 22.7%, $p<0.001$). In a 5-year follow-up to the prospective multi-centre AIM-II trial of patients with Barrett's esophagus and no dysplasia, researchers reported a complete response-intestinal metaplasia (CR-IM) in 92% of patients (N=46/50) treated with RFA. Eight percent of patients developed focal non-dysplastic Barrett's esophagus at 5 years, and a single session of RFA converted all these to CR-IM. There were no buried glands, dysplasia, strictures, or serious adverse events reported at 5 years. In a recent study addressing the efficacy of a stepwise regimen of circumferential and focal RFA for the treatment of Barrett's esophagus with either low-grade (N=39) or high-grade (N=24) dysplasia, researchers reported a CR-IM rate of 87%, and a complete response-dysplasia (CR-D) rate of 95% for the low-grade patients, and CR-IM and CR-D rates of 67% and 79% for high-grade patients, respectively. Similarly, in a multicentre, randomized trial comparing stepwise radical endoscopic resection versus focal endoscopic resection followed by RFA for patients with Barrett's esophagus and high-grade dysplasia or early esophageal cancer, investigators reported comparably high rates of CR-IM (92% versus 96%) and CR-neoplasia (100% versus 96%) with both procedures. Radical endoscopic resection was associated with a higher number of complications and required more therapeutic sessions, leading the investigators to recommend a combined endoscopic approach of focal endoscopic resection followed by RFA. In a comparison of the neosquamous epithelium of patients with high-grade dysplasia or early esophageal cancer pre- and post-RFA, researchers reported that all patients had normal neosquamous epithelium following ablation, with no persistent genetic abnormalities or buried glands. Adverse effects associated with RFA include chest pain, esophageal hemorrhage, and upper GI bleeding. As a result of these published findings, the guideline authors recommend RFA as the standard ablative therapy for the treatment of patients with Barrett's esophagus with high-grade dysplasia, as well as for select patients with no or low-grade dysplasia and additional risk factors.
3. Photodynamic therapy (PDT). PDT involves the administration of a photosensitizing drug, porfimer sodium (Photofrin®) that accumulates in the dysplastic tissue and causes tissue destruction when it is activated by an endoscopic light source. In a multi-centre, randomized trial comparing 208 patients treated with PDT with porfimer sodium plus a PPI versus a PPI alone, it was reported that PDT was significantly more effective than the PPI in eliminating high-grade dysplasia (77% versus 39%, $p<0.0001$). In addition, patients in the PDT group had a statistically significant decrease in high-grade dysplasia and adenocarcinoma risk when compared with patients in the PPI group (15% versus 29%, $p<0.004$). In a small randomized trial involving 26 patients with Barrett's esophagus and dysplasia who were treated with either PDT or argon plasma coagulation (APC), investigators reported that while both therapies were equally effective in eradicating Barrett's mucosa, PDT was more effective in eradicating dysplasia . PDT has also been used to treat patients with esophageal cancer and local failure after chemotherapy plus radiotherapy, as well as patients with early stage esophageal tumours who refused or were not candidates for esophagectomy. Porfimer sodium remains in the body for up to 2 months, therefore patients treated with PDT are extremely photosensitive, and must be cautioned to avoid any exposure to sunlight. The main adverse effect associated with PDT in patients with Barrett's esophagus is the formation of strictures, with some series reporting rates as high as 30%. The use of biomarkers to predict a response to PDT may help to better identify ideal candidates for this therapy; one recent study reported that the loss of p16 was associated with a decreased response to PDT in patients with high-grade dysplasia or mucosal cancer. The cost-effectiveness of PDT has been assessed in several recent publications, including 2 health technology assessments (HTAs) produced by Alberta Health. Both HTAs concluded that PDT offers relatively poor value for money in relation to other endoscopic procedures for Barrett's esophagus and early esophageal cancer, but that all of the endoscopic therapies have similar incremental cost-effectiveness ratios (ICERs) compared to surveillance alone. The HTAs also highlight the additional human resources required for patients treated with PDT, including patient education with a dietician, follow-up care with a nurse familiar with the PDT procedure, and follow-up appointments with the physician 3 and 6 months after the procedure. In Alberta, PDT is only available at the Royal Alexandra Hospital in Edmonton and the Foothills Hospital in Calgary. At present, the guideline authors only recommend PDT for patients who:
   - Are likely to be highly compliant with follow-up procedures (i.e., staying out of the sun for up to 2 months).
   - Are not surgical candidates.

- Are not amenable to endoscopic mucosal resection.
- Are not eligible for radiofrequency ablation (i.e., due to strictures).
- Had treatment failure with radiofrequency ablation or chemoradiation.

A special Tumour Board meeting must be called to review each case of potential PDT eligibility; a final approval checklist is included in Appendix B in the original guideline document.

4. Argon plasma coagulation (APC). APC therapy involves the use of a high-frequency monopolar current which is conducted to the tissue by ionized argon gas. In a 5-year follow-up study of 40 patients with Barrett's esophagus (20 treated with APC, 20 with surveillance), it was reported that 14 of 20 APC patients continued to have at least 95% of their previous Barrett's esophagus replaced by neosquamous mucosa, with 8 of these patients having complete microscopic regression of the Barrett's esophagus. In comparison, 5 of the 20 surveillance patients had more than 95% regression of their Barrett esophagus, and 4 of these had complete microscopic regression. The major complications associated with APC are pain and dysphagia; strictures have been reported in 5% to 10% of patients. APC is easy to use for small lesions (<4 cm), and has a reasonable safety profile; the major concern with this therapy is the heightened risk of buried glands, which may be more common in patients treated with APC versus other ablative techniques.
5. Multipolar electrocoagulation (MPEC). MPEC involves the delivery of thermal energy to the abnormal Barrett's mucosa through a probe passed through the endoscope that delivers the current between two or more electrodes. In a study involving 139 patients with Barrett's esophagus and no dysplasia who were followed over 10 years, investigators reported a recurrence of Barrett's esophagus in less than 5% of patients, and no adenocarcinoma or high-grade dysplasia of the esophagus developed in any of the patients. The major complications associated with MPEC include painful swallowing, chest pain, fever, gastrointestinal bleeding, and stricture. One of the disadvantages of MPEC is that multiple procedures are required to achieve ablation, and only small amounts of esophageal mucosa can be treated at one time (<4 cm). MPEC has been compared directly with APC in 2 randomized trials, both of which reported equal efficacy for both therapies with respect to complete eradication of Barrett's esophagus.

The use of other ablative therapies such as cryoablation are only recommended in the context of research and clinical trials.

Follow-Up

Ongoing ablative therapy should be continued with a goal of eliminating all visible and histologic Barrett's esophagus (CR-IM), allowing for neo-squamous epithelial regrowth. If not possible, then eradication of any Barrett's with dysplasia (CR-D) is a secondary aim. While the evidence for surveillance is inconclusive at this time, expert opinion for surveillance is as follows:

1. For patients with non-dysplastic, indefinite or low-grade dysplasia Barrett's esophagus treated with ablation, follow-up should include a 4-quadrant biopsy every 1 cm of the entire previous Barrett's esophagus segment within 12 months of CR-IM or CR-D. Surveillance endoscopy should take place every 6 months for the first year, then annually, with continuance based on clinical judgment and the individualized plan of care for each patient.
2. For patients with high-grade dysplasia treated with ablation, follow-up should include a 4-quadrant biopsy every 1 cm of the entire previous Barrett's esophagus within 12 months of CR-D. Surveillance endoscopy should take place every 3 months for 1 year, then every 6 months for the second year, then annually, with continuance based on clinical judgment and the individualized plan of care for each patient.
3. For patients with early esophageal cancer treated with ablation, follow-up should include a 4-quadrant biopsy every 1 cm of the entire previous Barrett's esophagus within 12 months of CR-D. Surveillance endoscopy should take place every 3 months for 1 year, then every 6 months for the second year, then annually, with continuance based on clinical judgment and the individualized plan of care for each patient. A CT-positron emission tomography (PET) scan is also recommended for patients with early esophageal cancer 12 months following ablation.

Clinical Algorithm(s)

The following treatment algorithms are provided in the original guideline document:

- Initial Management
- No Dysplasia
- Low-Grade Dysplasia
- High-Grade Dysplasia
- Early Esophageal Cancer or Invasive Carcinoma

Scope

Disease/Condition(s)

- Early esophageal cancer
- Dysplastic and non-dysplastic Barrett's esophagus

Guideline Category

Diagnosis

Evaluation

Management

Risk Assessment

Treatment

Clinical Specialty

Gastroenterology

Oncology

Pathology

Radiation Oncology

Surgery

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To describe the criteria for the use of endoscopic procedures for adult patients with Barrett's esophagus in Alberta

Target Population

Patients with a history of gastroesophageal reflux disease (GERD) and either suspected or confirmed Barrett's esophagus

Interventions and Practices Considered

Diagnosis/Evaluation/Risk Assessment

1. Diagnostic endoscopy using a white-light, high-resolution endoscope

2. Daily proton pump inhibitor (PPI) treatment and a repeat endoscopy within 6 to 12 months
3. Use of Prague C & M Criteria to assess the presence and extent of suspected Barrett's esophagus
4. Targeted biopsies of suspicious lesions
5. Sampling through endoscopic mucosal resection (EMR)
6. Using grade of dysplasia to determine appropriate surveillance interval and management strategy

Treatment/Management

1. Daily PPI therapy
2. EMR
3. Radiofrequency ablation (RFA)
4. Photodynamic therapy (PDT)
5. Argon plasma coagulation (APC) therapy
6. Multipolar electrocoagulation (MPEC)
7. Referral for esophagectomy
8. Follow-up and surveillance (biopsy and endoscopy)

Major Outcomes Considered

- Morbidity and mortality
- Survival rates
- Response rates: complete response-dysplasia (CR-D), complete response-intestinal metaplasia (CR-IM), complete response-neoplasia
- Recurrence rates
- Cost-effectiveness
- Adverse events
- Complication rate

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Research Questions

Specific research questions to be addressed by the guideline document were formulated by the guideline lead(s) and Knowledge Management (KM) Specialist using the PICO question format (patient or population, intervention, comparisons, outcomes).

Guideline Questions

- What are the recommended treatment options for patients with Barrett's esophagus and early esophageal cancer?
- In what clinical situations is endoscopic therapy the most appropriate treatment for patients with Barrett's esophagus and early esophageal cancer?

Search Strategy

A review of the literature was conducted by searching journal articles using the Medline (1946 to June Week 4, 2012), EMBASE (1980 to June Week 4, 2012), Cochrane Database of Systematic Reviews (2nd Quarter, 2012), and PubMed electronic databases. The following terms were

searched in various combinations: Barrett Esophagus (MeSH heading), Esophageal Neoplasms (MeSH heading), Precancerous Conditions (MeSH heading), Esophagus (MeSH heading), Esophageal Diseases (MeSH heading), and dysplasia (keyword). The results were limited to practice guidelines, systematic reviews, meta-analyses, multicentre studies, randomized controlled trials, and clinical trials. Articles were excluded from the final review if they: had a non-English abstract, were not available through the library system, or were published before the year 2000. The references and bibliographies of articles identified through these searches were scanned for additional sources. A search for practice guidelines published since January 2000 was conducted by accessing the websites and/or print publications of the following organizations: Cancer Care Ontario, British Columbia Cancer Agency, the National Comprehensive Cancer Network (NCCN), the National Institute for Health and Care Excellence (NICE), the European Society for Medical Oncology (ESMO), the Scottish Intercollegiate Guidelines Network (SIGN), the American Gastroenterological Association, the American College of Gastroenterology, and the Society of Thoracic Surgeons.

For the March 2014 revisions, an update on endoscopic mucosal resection (EMR) was conducted.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Not stated

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evidence was selected and reviewed by a working group comprised of gastroenterologists from the Provincial Tumour Team and members of the Guideline Utilization Resource Unit (GURU). A detailed description of the methodology followed during the guideline development process can be found in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field).

Evidence Tables

Evidence tables containing the first author, year of publication, patient group/stage of disease, methodology, and main outcomes of interest are assembled using the studies identified in the literature search. Existing guidelines on the topic are assessed by the Knowledge Management (KM) Specialist using portions of the Appraisal of Guidelines Research and Evaluation (AGREE) II instrument (http://www.agreetrust.org) and those meeting the minimum requirements are included in the evidence document. Due to limited resources, GURU does not regularly employ the use of multiple reviewers to rank the level of evidence; rather, the methodology portion of the evidence table contains the pertinent information required for the reader to judge for himself the quality of the studies.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Formulating Recommendations

The working group members formulated the guideline recommendations based on the evidence synthesized by the Knowledge Management (KM) Specialist during the planning process, blended with expert clinical interpretation of the evidence. As detailed in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field), the working group members may decide to adopt the recommendations of another institution without any revisions, adapt the recommendations of another institution or institutions to better reflect local practices, or develop their own set of recommendations by adapting some, but not all, recommendations from different guidelines.

The degree to which a recommendation is based on expert opinion of the working group and/or the Provincial Tumour Team members is explicitly stated in the guideline recommendations. Similar to the American Society of Clinical Oncology (ASCO) methodology for formulating guideline recommendations, the Guideline Utilization Resource Unit (GURU) does not use formal rating schemes for describing the strength of the recommendations, but rather describes, in conventional and explicit language, the type and quality of the research and existing guidelines that were taken into consideration when formulating the recommendations.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

The cost-effectiveness of photodynamic therapy (PDT) has been assessed in several recent publications, including 2 health technology assessments (HTA) produced by Alberta Health. Both HTAs concluded that PDT offers relatively poor value for money in relation to other endoscopic procedures for Barrett's esophagus and early esophageal cancer, but that all of the endoscopic therapies have similar incremental cost-effectiveness ratios (ICERs) compared to surveillance alone. The HTAs also highlight the additional human resources required for patients treated with PDT, including patient education with a dietician, follow-up care with a nurse familiar with the PDT procedure, and follow-up appointments with the physician 3 and 6 months after the procedure.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This guideline was reviewed and endorsed by members of the Alberta Provincial Gastrointestinal Tumour Team.

When the draft guideline document has been completed, revised, and reviewed by the Knowledge Management (KM) Specialist and the working group members, it is sent to all members of the Provincial Tumour Team for review and comment. This step ensures that those intended to use the guideline have the opportunity to review the document and identify potential difficulties for implementation before the guideline is finalized. Depending on the size of the document, and the number of people it is sent to for review, a deadline of one to two weeks will usually be given to submit any feedback. Ideally, this review will occur prior to the annual Provincial Tumour Team meeting, and a discussion of the proposed edits will take place at the meeting. The working group members will then make final revisions to the document based on the received feedback, as appropriate. Once the guideline is finalized, it will be officially endorsed by the Provincial Tumour Team Lead and the Executive Director of Provincial Tumour Programs.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management of patients with early esophageal cancer and dysplastic and non-dysplastic Barrett's esophagus

Potential Harms

- Adverse effects associated with radiofrequency ablation (RFA) include chest pain, esophageal hemorrhage, and upper gastrointestinal bleeding.
- The main adverse effect associated with photodynamic therapy (PDT) in patients with Barrett's esophagus is the formation of strictures, with some series reporting rates as high as 30 percent.
- Esophagectomy is associated with significant rates of post-operative and long-term complications.
- Radical endoscopic resection was associated with a higher number of complications and required more therapeutic sessions than RFA.
- The major complications associated with argon plasma coagulation (APC) are pain and dysphagia; strictures have been reported in 5 to 10 percent of patients.
- The major complications associated with multipolar electrocoagulation (MPEC) include painful swallowing, chest pain, fever, gastrointestinal bleeding, and stricture.

Qualifying Statements

Qualifying Statements

The recommendations contained in this guideline are a consensus of the Alberta Provincial Gastrointestinal Tumour Team and are a synthesis of currently accepted approaches to management, derived from a review of relevant scientific literature. Clinicians applying these guidelines should, in consultation with the patient, use independent medical judgment in the context of individual clinical circumstances to direct care.

Implementation of the Guideline

Description of Implementation Strategy

- Present the guideline at the local and provincial tumour team meetings and weekly rounds.
- Post the guideline on the Alberta Health Services Web site.
- Send an electronic notification of the new guideline to all members of CancerControl Alberta.

Implementation Tools

Chart Documentation/Checklists/Forms

Clinical Algorithm

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Alberta Provincial Gastrointestinal Tumour Team. Management of patients with early esophageal cancer, dysplastic and non-dysplastic Barrett's esophagus. Edmonton (Alberta): CancerControl Alberta; 2014 Mar. 19 p. (Clinical practice guideline; no. GI-011). [52 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2014 Mar

Guideline Developer(s)

CancerControl Alberta - State/Local Government Agency [Non-U.S.]

Source(s) of Funding

CancerControl Alberta

Guideline Committee

Alberta Provincial Gastrointestinal Tumour Team

Composition of Group That Authored the Guideline

Members of the Alberta Provincial Gastrointestinal Tumour Team include medical oncologists, radiation oncologists, surgeons, hepatologists, gastroenterologists, interventional radiologists, nurses, pathologists, and pharmacists.

Financial Disclosures/Conflicts of Interest

Participation of members of the working group in the development of this guideline has been voluntary and the authors have not been remunerated for their contributions. There was no direct industry involvement in the development or dissemination of this guideline. CancerControl Alberta recognizes that although industry support of research, education and other areas is necessary in order to advance patient care, such support may lead to potential conflicts of interest. Some members of the Alberta Provincial Tumour Teams are involved in research funded by industry or have

other such potential conflicts of interest. However the developers of this guideline are satisfied it was developed in an unbiased manner.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the Alberta Health Services Web site .

Availability of Companion Documents

The following is available:

- Guideline utilization resource unit handbook. Edmonton (Alberta): CancerControl Alberta; 2013 Jan. 5 p. Electronic copies: Available from the Alberta Health Services Web site .

In addition, a final approval checklist for photodynamic therapy is available in Appendix B in the original guideline document .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on August 12, 2014. The information was verified by the guideline developer on September 25, 2014.

Copyright Statement

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